

comprised of open pine or pine/mixed hardwood stands 30 years of age or older (Henry 1989). Primary habitat consists of mature to over-mature southern pine forests dominated by loblolly, long-leaf, slash, pond, or other southern pine species.

Nest cavities are constructed in the heartwood of living pine trees, generally older than 60 years that have been infected with red-heart disease. Excavation of a cavity usually initiates through an old dead branch opening in the bole of the tree. An aggregate of cavity trees is called a cluster and may include 1 to 20+ cavity trees on 3.0 to 60 acres. The average size of a cluster is about 10 acres. The typical cluster is occupied by a related group of individuals called a clan. The woodpecker drills holes into the bark around the excavated cavity entrance, resulting in a shiny, resinous buildup around the entrance that allows for easy detection of active nest trees.

The typical territory for a clan will range from 60 to 600 acres in size. Red-cockaded woodpecker prefers mature, open, pine forests and will not generally range greater than about 130 feet over cleared ground or hardwood stands. The clan will only exploit those pine stands for food that are contiguous with their nesting habitat. Pine flatwoods and pine-dominated savannas, which have been maintained by frequent natural fires, serve as ideal nesting and foraging sites for this woodpecker. Development of a thick understory may result in abandonment of cavity trees.

Small-anthered bittercress (*Cardamine micranthera*)

Family: *Brassicaceae*

Federally Listed: 1989

Small-anthered bittercress is a slender, erect perennial herb, usually with one but occasionally with multiple stems, either simple or branched, 8-16 inches (20-40 cm) high. Roots are fibrous. Leaf edges have shallow, rounded teeth. Bottom (basal) leaves are lobed, 0.4-0.8 inch (1-2 cm) long, and 0.2-0.24 inch (0.5-0.6 cm) wide. Upper leaves are alternate and usually unlobed, 0.4-0.6 inch (1-1.5 cm) long, and wedge shaped, with the narrow point at the stem. Reduced leaves (bracts) occur at the base of the flowers. The flowers have four white petals, 0.08-0.12 inch (2-3 mm) long, six stamens, and small, round anthers. Flowering and fruiting occur April-May. Seeds are brown, about 0.04 inch (1 mm) long. The brown seeds are approximately 0.04 inch (1 mm) long.

Very little is known about the life history of this species, including the identity of pollinators although ants have been observed on the flowers. This plant is primarily found along seeps and wet rock crevices of stream banks, adjoining sandbars, moist woods near small streams fully to partially shaded by trees and shrubs. Occasionally found in full sun (one population in Virginia). Although the species also was known historically from Forsyth County in North Carolina, the single population there was destroyed when the site was converted to cattle pasture in the early 1960s. All other North Carolina populations are located in the Dan River drainage (USFWS 1991).